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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,515	01/23/2004	Jacob Mozel	4707-001	5240

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EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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01/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/762,515

Applicant(s)

MOZEL ET AL.

Examiner

Michael J. Feely

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 55,56 and 58-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 55,56 and 58-68 is/are rejected.
- 7) ☒ Claim(s) 58,59 and 65 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 55, 56, and 58-68 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 10, 2007 has been entered.

Response to Amendment

2. The rejection of claims 53, 54, and 57 (and dependent claims 55, 56, and 58-67) under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling, has been rendered moot by the cancellation of claim 53 (and 54 & 57).
3. The rejection of claims 53, 54, and 57 (and dependent claims 55, 56, and 58-67) under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, has been rendered moot by the cancellation of claim 53 (and 54 & 57).
4. The rejection of claims 53, 54, and 57 (and dependent claims 55, 56, and 58-67) under 35 U.S.C. 112, second paragraph, has been rendered moot by the cancellation of claim 53 (and 54 & 57).

5. The objection to the specification has been overcome by the amendment to claim 55, striking *inorganic boron halides*.

6. The provisional rejection of claims 53, 54, and 57 (and dependent claims 55, 56, and 58-67) on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings claims 1, 2, and 17-25 of copending Application No. 10/762,508 (US 2005/0161633), has been rendered moot by the cancellation of claim 53. Furthermore, the copending claims no longer overlap the instantly claimed invention.

7. The rejection of claims 53 and 54 (and dependent claims 55, 59, and 64-67) under 35 U.S.C. 102(a/e) as being anticipated by Sano et al. (US 2003/0236321), has been rendered moot by the cancellation of claim 53 (and 54).

8. The rejection of claims 57, 58, and 60-63 under 35 U.S.C. 102(a/e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sano et al. (US 2003/0236321), has been rendered moot by the cancellation of claim 53 (and 57).

Claim Interpretation

9. In claims 55, 56, and 58-68, the recitation "*ink-jet*," has been given little patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In the instant case, the preamble merely recites the intended use of the liquid thermosetting ink, wherein the prior art can meet this future limitation by merely being capable of such intended use.

Claim Rejections - 35 USC § 112 1st paragraph

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 55, 56, and 58-68 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 68, not all of the structural relationships describing the curing agent particles are supported by the specification. The embodiment “*or dispersed in small crystals in a dispersing agent layer on or in the inert particle surface*” is not supported – see pages 5-6. Furthermore, it is unclear what “*dispersed in small crystals in a dispersing agent layer*” means. Claims 55, 56, and 58-67 are rejected because they are dependent from claim 58.

The following is suggested language: “at least one solid latent curing agent comprising an inert filler treated with a latent curing agent; said inert filler having a maximal particle size of less than 2 microns and optionally being porous in nature; said latent curing agent being

precipitated as a layer on said inert filler or being precipitated in the form of small crystals onto said inert filler surface and/or inside the internal porosity of said inert filler.”

Regarding claim 58, not all of the epoxy resins (*bisphenol S epoxy resins*) set forth in claim 58 are supported by the Specification – *see: page 4, lines 22-25; page 9, lines 1-5*. There is only support for hydrogenated bisphenol S epoxy resins.

Regarding claim 65, not all of the impact modifiers and/or flexibilizers (*hydroxyls, zirconate, titanate, aluminate*) set forth in claim 65 are supported by the Specification – *see: page 4, line 28 through page 5, line 2; page 9, lines 11-16*. There is not reasonable support for all materials that fall within the scope of *hydroxyls*. Furthermore, zirconate, titanate, and aluminate are described as adhesion promoters.

Claim Rejections - 35 USC § 112, 2nd paragraph

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 55, 56, and 58-68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what “*dispersed in small crystals in a dispersing agent layer*” means:

Claims 55, 56, and 58-67 are rejected because they are dependent from claim 58.

Claim Objections

14. Claims 58, 59, and 65 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. *All of these claims are dependent from cancelled claims.*

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 55 and 59-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (US 2003/0236321) in view of Hopper et al. (US 2006/0047014).

17. Claims 55 and 59-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (US 2002/0077384) in view of Hopper et al. (US 2006/0047014). This is parent publication of the other Sano et al. reference. All citations are directed to the 2003 publication.

Regarding claims 55, 59, and 64-68, Sano et al. disclose: (68) a micron liquid thermosetting ink-jet ink (Abstract) comprising: solid composite curing agent particles with a maximal size of less than 2 micron (paragraph 0042) each comprising (a) an inert particle (paragraph 0042); and (b) a curing agent layered on the surface of said inert particle (paragraph

0042); said ink-jet ink being characterized by a surface tension lower than 80 dyne/cm at application temperature (paragraph 0121);

(55) wherein said curing agent is selected from the group consisting of *see claim for list* (paragraphs 0058-0063);

(59) additionally comprising monomer and/or oligomers selected from *see claim for list* (paragraphs 0043-0057);

(64) additionally comprising impact modifiers and/or flexibilizers having rubbery moieties or blocs in their chain (paragraphs 0043-0057); (65) wherein said impact modifiers and/or flexibilizers are selected from *see claim for list* (paragraphs 0043-0057);

(66) additionally comprising mineral fillers, having a maximal particle size of about 2 microns in the final ink; wherein the concentration ranges between about 1 to 30% by weight (Abstract; paragraphs 0042 and 0064-0065); and

(67) additionally comprising additives selected from *see claim for list* (paragraphs 0064-0065).

Sano et al. do not explicitly disclose: (68) said ink-jet ink being characterized by a glass transition temperature, in the cured form, of greater than 120°C. However, it appears that this property would have been inherently satisfied by Sano et al. because they satisfy all of the material/chemical limitations of this claim. In light of this, it has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Sano et al. also fail to explicitly disclose: (68) said ink-jet being characterized by a viscosity lower than 50 cPs at application temperature.

Hopper et al. demonstrate that viscosity is a result-effective variable for ink-jet printing applications (*see paragraph 0017*). Furthermore, they demonstrate that the instantly claimed viscosity range is recognized as suitable and operable for most commercial ink-jet print heads. In light of this, it has been found that the selection of known material/parameter based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the ink-jet ink of Sano et al. with a viscosity of the instant claims because the teachings of Hopper et al. demonstrate that viscosity is a result-effective variable for ink-jet printing applications and that the instantly claimed range is recognized as suitable and operable for most commercial ink-jet printing heads.

Regarding claims 60-63, these claims present limitations wherein the composition is *adapted to* particular applications and materials. These limitations are merely future intended use limitations. A recitation of intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

In the instant case, the prior art composition appears to be inherently capable of performing these intended uses because the prior art composition satisfies all of the material/chemical limitations of the instant invention.

18. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Sano et al. (US 2003/0236321 or US 2002/0077384) and Hopper et al. (US 2006/0047014) in view of Nishida et al. (US 2004/0048950) and Ishikawa (US 2004/0113961).

Regarding claim 58, Sano et al. contemplate the use of epoxy resins (*see paragraph 0048*); however, they fail to elaborate on specific epoxy resins, such as those set forth in claim 58.

Both Nishida et al. (*see Abstract; paragraphs 0045 & 0076*) and Ishikawa (*see Abstract; paragraphs 0216-0220*) demonstrate that the instantly claimed epoxy resins are recognized in the art as suitable epoxy resins for use in thermosetting ink-jet inks. In light of this, it has been found that the selection of known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the instantly claimed epoxy resins, as taught by Nishida et al. and Ishikawa, in the combined teachings of Sano et al. and Hopper et al. because the teachings of Nishida et al. and Ishikawa demonstrate that the instantly claimed epoxy resins are recognized in the art as suitable epoxy resins for use in thermosetting ink-jet inks.

Response to Arguments

19. Applicant did not provide any arguments with respect to prior art of record. Regardless, any arguments would have been moot in view of the new ground(s) of rejection.

Allowable Subject Matter

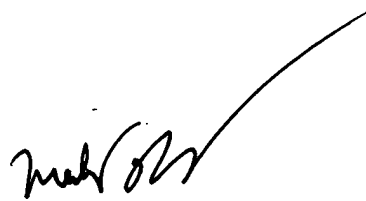
20. Claim 56 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The “inert filler” of Sano et al. is a pigment material (*see paragraphs 0033-0042*). They contemplate the use of additional filler additives (*see paragraph 0065*), but it does not appear that these additional filler additives would have been coated with curing agent (*see paragraph 0042*). They would have been auxiliary materials used in concert with the coated pigments.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely
Primary Examiner
Art Unit 1796

December 26, 2007

**MICHAEL FEELY
PRIMARY EXAMINER**